

Report of a Workshop on Impacts of Decadal Climate Variability in the United States^{*}

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Summary of Workshop Proceedings

The search for evidence of decadal climatic variability (DCV) has a very long history. In the last decade, a research community has coalesced around a series of roughly biennial workshops that have emphasized description of past DCV events; their causes and their ‘teleconnections’ responsible for droughts, floods, warm and cold spells around the world and, recently, the predictability of DCV events. Researchers studying climate change put great emphasis on prospective impacts, but the DCV community has yet to do so. To begin rectifying this deficiency, a short but ambitious workshop was convened near Kona, Hawaii from 26 to 28 April, 2007. This workshop, sponsored by CRCES, NOAA, USGS, and the Army Corps of Engineers, brought together climatologists and sectoral specialists representing agriculture, water resources, economics, insurance industry, and developing country interests.

The workshop program was organized as follows. First, important concepts and methodologies with respect to DCV and societal factors determining magnitude of impacts were explored; and a common vocabulary was established. Next, a basis was established for identifying impacts of DCV phenomena by describing the range of sectoral and regional impacts associated with climate phenomena. Then, participants were tasked with identifying, where possible, impacts in their sectors of interest associated with historical DCV events. Two major topical sectors identified were hurricanes and droughts; and two major geographical regions identified were the Missouri River basin and the U.S.-Mexico border region. Subsequent presentations addressed the question of what might be done to decrease vulnerability and/or increase resilience to DCV impacts in the future. In addition, the costs to society of DCV-driven impacts on agriculture, water resources, coastal regions, and human health were explored as well as how these impacts can be mitigated/exploited for societal benefits.

Workshop participants recommended that (i) ways be found to improve communication among climate and impacts researchers, and the stakeholders and policymakers they serve; simple definitions and examples of DCV phenomena would contribute to this goal, as would systematic efforts to identify relationships between climate impacts and societal vulnerabilities; (ii) high priority should be given to assessments of the relevance of DCV information for socio-economic processes and decision-making (iii) studies of economic impacts of DCV events should be promoted; (iv) regional and/or local scenarios, predicated on the future return of past DCV patterns should be developed to guide assessments of future impacts; such assessments must be based on the realization that societal conditions are not static; (v) better socio-economic and climate datasets must be assembled; (vi) climate scientists should provide DCV statistics for risk assessment models for coastal, agricultural, and water resources applications; (vii) while multiyear DCV outlooks would be useful they must be scientifically sound; otherwise the DCV community’s credibility is put at risk; and (viii) a workshop to explore DCV impacts on developing countries could provide insights for the World Climate Conference III being organized in 2009 by the WMO and can build upon the experience gained in the Kona workshop.